

VSCP: Basic Epidemiology for Animal Health Technicians

18-21 April 2006

Ft. Collins, Colorado

Course Objectives

Upon completion of the lectures and exercises, the participants will be able to complete the following activities:

- Identify, list and explain the relationships among agent, host, and environmental factors in the causation of disease in animal populations
- Apply the “person”, place, and time epidemiological categorizations to an animal population
- Identify and define the factors important in infectious disease transmission within animal populations
- Explain the dynamics of disease transmission and the concept of herd immunity
- Recognize the epidemiological bases for disease prevention and control strategies in order to aid in implementation
- Define GIS and explain its role in animal health epidemiological investigations
- Use a GPS unit to collect field data
- Differentiate among ratios, proportions, and rates
- Differentiate between incidence and prevalence
- Calculate basic morbidity and mortality rates and proportions
- Calculate a measure of risk of disease or death – relative risk and explain its meaning
- List the differences between a cross-sectional survey and a surveillance system
- Differentiate active and passive surveillance
- List, explain, and with supervision carry out the necessary steps in an outbreak investigation within an animal population
- Select an appropriate random sample from an animal population to investigate a specific disease outcome or animal health characteristic
- Set up a data collection spreadsheet in Excel and calculate appropriate summary statistics.
- Define biosecurity and illustrate its importance in national animal health programs
- Differentiate a diagnostic test and a screening test
- Define sensitivity and specificity of a test and explain the role and importance of these measures in disease prevention
- List the important AHT position-related uses of the knowledge concerning epidemiology fundamentals.